PHILADELPHIA, MAY 25, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE ON CHRONIC ALCOHOLISM.

BY WM. H. THOMSON, M.D.,

Professor of Materia Medica and Therapeutics in the Medical Department of the University of the City of New York.

GENTLEMEN,—The first patient I shall show you this morning is a man 50 years of age, who says he has come into the hospital on account of "general debility," and whom I now purpose to question more particularly as to his condition.

[The professor here, by a series of questions, elicited the symptoms of the case.]

Now let us briefly recapitulate the symptoms of this case. The patient complains of great weakness of the limbs, not confined to either side of the body, and has a good deal of tremor with it. There is no double or disordered vision, apparently; but there is dizziness of the head, frequently associated with a sense of falling. The man tells me that he always carries a cane to steady himself in walking, and that when he lifts himself up after stooping down for any purpose, the dizziness is very troublesome indeed. His eyesight is not as good as formerly; he always has a very poor appetite; and he always sleeps very badly; finally, he has a cough, which annoys him only at night, but is then frequently so severe, he informs me, as to make his throat sore the next day from the effort.

Before proceeding any further, let us examine a little more particularly the character of the tremor here present. It is not the tremor of paralysis agitans, because if this were a commencing case of that affection the patient would have a characteristic walk, which is not seen here. A very early symptom, associated with the commencing tremor in paralysis agitans, is an alteration in the gait. This is caused by a tendency to throw the body forward, so that the patient walks on his toes. The feet are not lifted from the ground, however, and thus a shuffling gait is produced. The soles of the shoes worn by any one suffering from shaking palsy always give out at the toes first. Another characteristic feature of the gait in this disease is that, although the body is thrown forward, the head is carried erect and looking steadily forward, there being an instinctive effort on the part of the patient to balance himself carefully in walking. Whenever you observe this peculiar gait, you should always look for tremor in the individual, and be prepared to make the grave prognosis belonging to paralysis agitans; but in the present case, although we have more or less tremor, the characteristic gait is absent, and we can therefore, fortunately, exclude that progressive and fatal disorder.

On the other hand, if there is commencing locomotor ataxia, instead of paralysis agitans, the patient puts his heels down first in walking; while if there is paraplegia present, the patient walks with a "spreading gait," as it is called. He separates the feet as far as possible, so as to make a broader base of support for the upper part of the body. The gait in hemiplegia also is highly characteristic. In this condition (unless it is of hysterical origin) the foot upon the affected side is brought around with a swing in walking, and in well-marked cases describes a complete semicircle. In hysterical paraplegia the paralyzed limb is dragged after, and not swung around, the other one. But in the case before us you observe that the patient when he walks does not step first either upon the toes or the heels, does not spread his feet apart, and does not swing one leg around, or drag it behind the other.

Now for your diagnosis. As you have just seen, we have been able to exclude a whole batch of nervous affections; and yet this man undoubtedly has some serious trouble. The first diagnosis that I have suggested is "general debility;" and the second, "chronic alcoholism." The latter is a very good one, and can be thoroughly substantiated. We have tremor, associated with loss of appetite and poor sleep, of long standing; and I think there can be no doubt that there is commencing nervous disease, due to alcoholic drinking. If taken in hand now, it may progress no further; but if the habit is still kept up, it may go on to paralysis agitans, amaurosis, or other grave difficulty.

The next patient is a man of 34, who

also complains of great dizziness of the head. It is of comparatively recent origin, but is pretty constant, and especially troublesome when he first rises after stooping down. For a second or two, he says, he cannot see anything at all; but when he does recover his sight there does not seem to be anything abnormal about it. He feels the dizziness sometimes even when he is sitting down. Like the other patient, he has some cough, but he does not think it is worse during the night than the day. He expectorates considerably, and has sore throat frequently. The act of coughing makes him dizzy now, and this was not the case formerly. When he extends his arms, you observe the same tremor as in the other case, and also that it is more marked when the hands are supinated than when they are pronated. This is because it is a true muscular tremor, and the stronger muscles are thus brought into a position the most favorable for its occurrence. Here, as before, we may exclude the various affections previously mentioned; and I might add that in both cases we can also exclude paralysis of the insane. That is due to a chronic meningitis; and it is worthy of remark, in connection with it, that when a patient affected with it is walking, and wishes to turn in another direction, he has to come to a stop before he can do so. So, too, if you address such a patient while walking, he has to stop before he can reply to you.

Next let us inquire what there is in common between this man and the other. There are at least three things, viz., tremor, cough, and a fear of falling. It is a curious fact that this latter symptom does not belong to either locomotor ataxia (except perhaps at night) or paralysis agitans. Although patients with both of these affections are very liable to fall, they do not seem to experience this fear of it which is exceedingly characteristic of alcoholism. If a patient tells you that he is frequently afraid of falling in the street (and yet has no true vertigo), you will be justified in at least suspecting this latter condition. This sensation of falling not infrequently comes over such persons while walking, and frightens them to such an extent that a cold perspiration starts out all over them. The dizziness and derangement of vision after bending over or stooping down are also characteristic of alcoholism.

The paralysis is not local, as is the case in paralysis agitans, locomotor ataxia, progressive muscular atrophy, and true hemiplegia, but is of a general character. Nor is the tremor violent, like that of paralysis agitans. The trembling of a patient with that affection will not infrequently shake the whole bedstead upon which he lies, and I have seen it cause audible vibrations between a plate and tumbler at the other end of the room. The tremor of chronic alcoholism is more like that of old age.

If these cases would only stop here, the prognosis would not be an unfavorable one for either of the patients; but, unfortunately, they are liable to progress to much more serious, or even irremediable, trouble. A large proportion of the cases in every insane asylum and hospital for paralytics, as well as many cases of total loss of sight or grave derangement of vision, are due solely to alcoholism. The reason that they are not seen more frequently is that alcohol very often cuts short the lives of its victims by carrying them off with disease of the kidneys, liver, and other organs. The class of cases usually found intoxicated in the streets are the ones that die from delirium tremens, acute nephritis, etc. But such cases as we have seen to-day are saturated with small doses of alcohol. A man of this kind is never, or only very occasionally, known by his friends to be drunk. He will deny that he drinks excessively, and very likely tell you that he is quite temperate. At least half the number of such persons deny that they drink at all; so that I think it well to put you on your guard, lest you should be misled in some such case, and attribute the symptoms erroneously to some special disease of the nervous system.

How are you to come to a correct conclusion? By noting very carefully the presence of such features as I have already directed your attention to, and others which will presently be mentioned. Such a patient will tell you that he has had a very poor appetite, perhaps for quite a long time, and that he can never eat a full meal. He scarcely takes five or six mouthfuls of food before he feels completely satiated, and if he eats any more it is merely from a sense of duty. This distaste for food constitutes so general a rule that the symptoms of delirium tremens

always depend to a great extent upon previous starvation. I have scarcely ever seen a case of this affection where the patient had not been practically without food for six or eight days, and never one in which this had not been the case for at least four days. I have met with one well-authenticated case in which the man took no food for fourteen days; and it is indeed a wonder how such patients continue to live at all. Every individual who takes much alcohol has great difficulty in eating sufficient food for the requirements of the system; and hence it is that the atrophy which is so invariably found in chronic alcoholism is due in great part really to starvation.

In the next place, such a patient is exceedingly liable to be troubled with flatulence. He is very apt to have a marked distaste for meat, and if he eats it at all it must be very highly seasoned, in order to get the stomach to take it.

Third. An invariable symptom (I have never known it to be absent in a single instance) is poor sleep. It is poor in two respects. In the first place, the patient cannot get to sleep for a long time after retiring; and, secondly, he dreams a great deal when he does get to sleep. No drunkard ever has pleasant dreams. Hence such sleep as is obtained is not refreshing. If an individual who consults you states that he has had a poor appetite for years, and cannot sleep at night, your suspicions ought at once to be aroused to the probability at least of alcoholism being present.

Fourth. Another pretty constant symptom is constipation. Even if the patient has a movement of the bowels every day, it will usually be found, on investigation, that the evacuations are quite scanty.

Now let us pass to another group of symptoms. The first of these is a sense of falling, which has already been shown to be characteristic of alcoholism. This, indeed, often precedes alcoholic epilepsy, in which the mind gives way more quickly perhaps than in any other form of epilepsy. Many patients have insanity in connection with the epilepsy; but, whether this is the case or not, they always experience this fear of falling first. The sensation of dizziness which gives rise to this feeling is usually noticed for the first time just after the individual has stooped down to tie his shoe, or bent over to pick up something from the floor.

Secondly, we have cough; and this cough is peculiar, in that it is mainly laryngeal. It is, consequently, decidedly whistling in sound, and is about as characteristic of the condition as the loud bark of hysterical cough. The cough may be very severe, causing the patient to grow red in the face; but it is followed by no trouble whatever afterwards. On this account it is easy to distinguish it from the cough of both phthisis and bronchitis, which is invariably succeeded by quickened respiration. This is due to the diminution of the quantity of residual air in consequence of the act of coughing. In chronic alcoholism, however, all the cough is due simply to an irritation of the epiglottis. If you look for an explanation of this in any case, you will be sure to find a diffused redness all over the fauces. In bronchitis the cough frequently wakes the patient out of sleep; but in alcoholism he does not cough until after he has waked up.

The third symptom is tremor. It affects all the muscles, and is usually associated with more or less atrophy. This also, unlike that seen in the disease progressive muscular atrophy, is uniform in all parts of the body. You will always find that you can stop alcoholic tremor, in the hand, for instance, by grasping it firmly; but if it were the tremor of paralysis agitans, your hand also would be caused to shake by it.

Chronic alcoholism, I may remark, is curable up to a certain point; but when the mind has begun to be affected, the prognosis is exceedingly bad, for insanity, once having shown itself, is almost uniformly fatal. There is usually chronic meningitis in such cases, which sometimes terminates in acute mania, and sometimes in idiocy. When meningitis comes on suddenly, however, in consequence of some debauch, the prognosis is decidedly more favorable. If epilepsy sets in, the patient is in a very bad way, for this form of epilepsy is worse than any other.

I have brought these two cases before you, and dwelt at length upon their characteristics, mainly for two reasons. The first is in order that you may be able to recognize similar ones when they occur to you in practice, notwithstanding that the fact of their drinking may be denied. These patients are as sensitive about saying that they are at all intemperate as others about acknowledging that they have had

syphilis; and not infrequently they deceive themselves; for they seem to think that if they do not get intoxicated the use of alcohol is not injurious to them. The second reason is to remind you of the curability of a great many of the cases of alcoholism.

The first essential in the treatment is to get the patient to stop the use of alcohol at once and forever; and unless you can do this, there is no use in going on with the case. For the tremor, the oxide of zinc acts almost like a specific. It is also decidedly soporific in its effect, and has moreover the advantage of curing the gastritis which is usually present in these cases, and thus greatly improving the digestion. Finally, it is requisite that you should get the patient to eat; and at first milk is often the best form of diet. Food is the only thing that can stop the craving for alcohol; and so firm is my confidence in it as an antidote for this, that I do not hesitate to say that if an individual will never take alcohol except when he is eating, I have not the slightest fear of his ever becoming a confirmed drinker. It is the drinking between meals, and especially early in the morning, that does all the mischief.

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGICAL ACTION OF NAPELLINA AND ACONITIA.

BY J. MONRO MURRAY, Asst.-Surg. U.S.N.

(Continued from page 364.)

PART II.

WITHOUT discussing the work of previous experimenters, I propose to give here only results experimentally arrived at by myself. In a series of experiments upon the general phenomena produced by aconitia, it was found that its action is analogous to that of napellina, except that the former arrests the movements of the heart, while the latter does not.

Action on the Motor Nerves.—In a number of experiments I found as a rule that the nerves were completely paralyzed, but in a few cases the nerves still retained a slight portion of irritability. Boehm observed the same phenomenon, and Ott has seen like results from lycoctonia. I also have witnessed similar results from napellina.

Action on Sensory Nerves.—In studying the action of this drug on these nerves I used the methods of Bernard and Brown-Séquard.

Experiment V.—Frog; weight 26 grammes.

11.12 A.M. Iliac artery and vein ligated; .005 gramme of aconitia injected subcutaneously.

11.13 A.M. Pupils dilated; respiration slowed and forced.

11.20. Fibrillary muscular contractions.

11.40. Animal motionless; pupils dilated.

11.55. Animal dead; heart arrested; irritation of central end of sciatic produces no reflex movement; spine-thrust causes no contraction.

Exp. VI.—Frog; weight 31 grammes; iliac artery and vein ligated.

4.53 P.M. .01 gramme of aconitia subcutaneously injected.

5.23 P.M. Animal dead; irritation of either sciatic at its central end causes no reflex movement.

Exp. VII.—Frog; abdominal aorta and all its surrounding tissues except the nerves ligated. 1.25 P.M. .01 gramme of aconitia subcutaneously injected. 1.37 P.M. Motor paralysis in the anterior extremity; none in the posterior. 1.40 P.M. No movements now when the anterior extremities are touched with acetic acid, but when the trunks of nerves of anterior extremity are irritated there ensues movement in the posterior extremity; finally, irritation of the nerve-trunks fails to elicit movement in posterior extremity.

As is seen, the sensory-nerve ends first fail to transmit impressions to the spinal sensory ganglia and then to the nerve-trunks. Hence it is inferred that aconitia acts first on the sensory-nerve ends, and then this action extends up to the spinal sensory ganglia. Various conflicting theories have been advanced by the different observers in regard to the action of aconitia upon the nervous system. From my experiments I conclude,—1, that it paralyzes first the peripheral ends of sensory nerves, and then the nerve-trunk, and finally the spinal sensory ganglia; 2, that it as a rule paralyzes the motor nerves depending on the variety of the batrachian; that it causes death by arrest of the respiratory apparatus; that it always arrests the heart in diastole.

Circulatory Apparatus.—My mode of investigating the phenomena produced by aconitia was the same as already described when treating of napellina. I have made twenty-one experiments.

In several manometrical experiments made upon cats it was found that aconitia

causes a fall of pulse and pressure, preceded in most cases by a temporary rise of both for a period of fifteen to thirty seconds.

A series of experiments were made after section of the vagi and after paralysis of the peripheral vagi by the exhibition of atropia or of nicotine.

The fall of pulse and of pressure noted in the uninjured animal was not prevented either by the section of the vagi or their paralysis by atropine or nicotine: hence the cause of it does not reside in the cardio-inhibitory apparatus.

Exp. VIII.—Large dog; tracheotomy; artificial respiration; curare.

Time.	Pulse.	Pressure.	
	27	210	
	Aconitia, .01 gramme.		
11.53.0	35	230	
11.55.45	33	221	
12.12.30	34	215	
	Aconitia, .01 gramme.		
12.17.15	33	165	
	Aconitia, .015 gramme.		
12.18.00	30	120	
	Aconitia, .02 gramme.		
12.18.15	34	100	
12.20.33	33	110	Vagus irritated at 0, Dubois-Reymond, for 4 seconds.
12.37.0	Animal dead; heart arrested.		

Exp. IX.—Rabbit; vagi prepared; Middledorff's needle pushed into the heart. 1.42 P.M. Dubois' coil at 9 stops the heart. 1.45 P.M. Aconitia, .005 gramme, by the jugular. 1.49 P.M. Coil at 9 does not arrest the heart. 1.51 P.M. Coil at 5 does not slow the heart. 1.57 P.M. Coil at 0; no action in slowing the heart, showing that the vagus is paralyzed.

These experiments clearly demonstrate that aconitia paralyzes the pneumogastric. Dr. Achscharumow found after section of the vagi that there was a marked elevation of pulse and pressure. This phenomenon I have failed to observe in any of my experiments. I have also verified on the frog the complete paralysis of the vagi by aconitia.

Action on the Vaso-Motor Apparatus.

Exp. X.—Large cat; curare; vagi divided; artificial respiration; Ludwig's electrodes screwed into the atlas and occiput; sciatic prepared.

Time P.M.	Pulse.	Pressure.	
	47	80	
	Aconitia, .0025 gramme.		
1.42.0	49	83	
1.42.15	50	75	Vaso-motor centre irritated at 10 millimetres, Dubois' coil.
1.42.30	45	112	
1.44.00	40	70	
	Aconitia, .0025 gramme.		
1.47.30	45	71	
	Aconitia, .005 gramme.		
1.47.45	43	69	
1.48.30	40	59	Sciatic indirectly irritated at 0.
1.49.15	39	58	
1.49.45	31	40	Centre directly irritated at 0, Dubois.
1.50.0	31	35	
1.51.0	Animal dead.		

Here the main vaso-motor centre has been paralyzed both to direct and indirect irritation.

Action on the Cardio-Motor Apparatus.

Exp. XI.—Cat; curare; cardiac nerves in the neck cut; cord cut between the atlas and occiput verified by post-mortem; bleeding staunched by bovista.

Time A.M.	Pulse.	Pressure.	
	42	32	
	Aconitia, .01 gramme.		
11.15.0	40	32	
11.16.15	35	30	
11.18.15	35	21	
11.19.45	30	20	
11.20.45	36	20	
11.21.45	Animal dead.		

I have made a few experiments on the circulation with aconitia, and then antagonized it with digitalis. They were confirmatory of those given under napellina. An excised frog's heart when arrested by aconitia is easily set in motion by infusion of digitalis. Digitalis, therefore, has an antagonistic action in poisoning by aconitia. My conclusions as to the action of aconitia on the circulatory system are as follows:

1. The alkaloid produces a decided fall in pulse and pressure, nearly always preceded by a rise of both for about thirty minutes.

2. This fall is not due to either central or peripheral stimulation of the cardio-inhibitory apparatus.

3. Aconitia paralyzes the pneumogastrics.

4. The same sequence of events follows after separation of the heart from its nervous connections.

5. Aconitia has a peculiar action on the heart, which is expressed by a delirium of its movements. The vaso-motor centre is finally paralyzed to either direct or indirect irritation. Digitalis is an antidote in aconite-poisoning.

These conclusions are founded on twenty-one experiments on warm-blooded animals.

In several experiments it was found that aconite increases and then decreases the respiratory movements without regard to the previous section of the vagi. It is evident that the drug acts on the respiratory centres of the medulla.

Action on the Muscular System.—I have registered numerous muscle-curves by the methods already described under the head of napellina, but have never, like Boehm and Wartmann, seen any action like veratria, although Weyland has given a figure much resembling that produced by veratria as characteristic of aconitia.

To show that long contact of aconitia will destroy the irritability of a muscle, I submit the following:

When topically applied I found it slowly to destroy muscular contractility.

Temperature.—I have observed in all my experiments on the subject that there is a fall of about 3° centigrade in the rectal temperature.

Glandular System.—I have noted in all my experiments on warm-blooded animals that there was a marked increase in the salivary secretion. The gall-bladder was very much distended, spleen and kidneys congested, bladder distended with urine which contained neither albumen nor sugar. The intestinal peristalsis was usually increased, and the quantity of fæces was augmented.

In conclusion, I offer the following comparison between the physiological actions of lycoctonia, napellina, and aconitia:

Aconitia.

1. Aconitia is a powerful toxic agent.
2. It kills mainly through the respiratory apparatus.
3. It paralyzes the motor nerves.
4. It paralyzes first the sensory-nerve ends, then the nerve-trunks and spinal sensory ganglia, and does not affect the striated muscles.
5. It reduces the arterial tension and pulse, with a decided primary rise of the former.
6. The pulse- and pressure-changes are due to an action on the intra-cardiac nervous apparatus.
7. The vagi are paralyzed by small doses.
8. The delirium cordis is due to a change in the nervous mechanism of the heart.
9. It paralyzes the heart of batrachians.

Napellina.

1. Is a weaker toxicant than aconitia.
2. Same as aconitia.
3. Same as aconitia.
4. Same as aconitia.
5. Same as aconitia.
6. Same as aconitia.
7. The vagi are paralyzed by medium doses.
8. Same as aconitia.
9. It does not poison the heart of batrachians.

Lycoctonia.

1. Lycoctonia is a weaker toxicant than either aconitia or napellina.
2. The same as aconitia.
3. The same as aconitia.
4. It does not affect sensory nerves, spinal cord, or striated muscles.
5. It reduces arterial tension and pulse, without any primary rise.
6.
7. The vagi are only paralyzed by large doses.
8. Same as aconitia.
9. It does not paralyze the heart of batrachians.

In conclusion, I beg to express my warmest thanks to my friend and tutor, Dr. Isaac Ott, formerly Demonstrator of Physiology in this laboratory, for his personal supervision of many of my experiments, as well as for his kindness in affording me access to his valuable library, from which I obtained many rare works of reference.

Physiological Laboratory of the University of Pennsylvania, March, 1876.

SMALLPOX IN THE PREGNANT WOMAN AND IN THE FŒTUS.

BY W. M. WELCH, M.D.,
Physician to The Municipal (Smallpox) Hospital, Philada.

THE genital functions of the female are disturbed with striking frequency by the variola process. The menses very commonly appear out of their regular course, and, in the pregnant woman, abortion or premature birth is an accident of common occurrence, and one that greatly adds to the danger of the disease. Although the premature appearance of the menses, and even the occurrence of abortion, are not uncommon events in many other infectious diseases, yet in smallpox there is, I think, a direct action upon the functions of the uterus; for either of these events happens too frequently in this disease to be regarded as purely accidental. It is true that pregnant women not unfrequently pass through an attack of smallpox and escape abortion; yet in non-pregnant women menstruation occurs almost invariably, whether at or before the regular period. When it occurs be-

fore the regular period it is probably not due to ovulation, but is the result of a hyperæmic condition of the womb brought about by the variola process; though the precise way in which this condition is brought about is, perhaps, unknown.

So also in the pregnant woman the disease very frequently exerts the same direct action upon the womb, giving rise to a bloody discharge which always precedes abortion, and which doubtless is in most instances the cause of the accident; for we know that an attack of uterine hemorrhage, however slight, during the early stage of pregnancy, is often a sure precursor of the final destruction of the embryo. A distinguished writer* has said, "As a general rule, if a woman not advanced beyond the fourth month loses a teaspoonful of blood, it is probable that she will miscarry." Not unfrequently in smallpox the loss of blood from this source is very profuse: in such cases abortion or premature birth is looked for as a matter of course.

While I regard the action of the variola process upon the womb as the chief cause of abortion in this disease, yet it must be admitted that the miscarriage is sometimes attributable to another cause, the death of the fœtus from itself undergoing an attack of smallpox. This subject will be more fully considered in a later part of the paper.

The symptoms and course of smallpox are often greatly influenced by the occurrence of abortion. If it occurs during the febrile or initial stage, the disease is apt to assume the form known as *purpura variolosa*, which is regarded as the worst form the disease could take. In such cases, besides the ordinary rigors and headache, which usually usher in the initial stage, there are intense pain in the back, and great prostration. Quite early, there appears a diffuse scarlatiniform redness on the trunk and extremities, often more intense in some localities than in others, but leaving the face comparatively free. This redness does not continue longer than a day or two, and, as it fades away, petechiæ and larger hemorrhagic spots become visible. The petechiæ not unfrequently are so densely crowded together in certain localities as to produce the appearance of a diffuse redness; differing, however, from the scarlatiniform redness by being of a deeper color and by not disappearing under pressure.

The petechial or hemorrhagic eruption may appear on any part of the body, but the favorite seat seems to be the lower abdominal region, the groins, and the inner surfaces of the upper portions of the thighs. I have seen parturient women, and women in whom abortion has occurred, die, showing no other sign of eruption than that just described. In such cases, without carefully examining all parts of the body, and particularly the groins, it is quite possible to overlook the real cause of death. When the petechiæ or hemorrhagic spots do not appear during the illness of the patient, it should be remembered that they very generally become visible upon the dead body.

During the eruptive stage of this form of the disease, the face presents a red and puffy appearance, large dark rings form around the eyes, resulting from effusion of blood into the cellular tissue, the conjunctivæ are congested, and sometimes infiltrated with blood, and, altogether, the countenance is so changed that the patient is made to present a truly hideous appearance, and is often wholly unrecognizable by her most intimate friends.

Along with these symptoms, there often are nausea and vomiting, a troublesome cough with expectoration of bloody sputa, frequently bloody stools and blood in the urine, and there is always a free and uncontrollable discharge of blood from the uterus. Towards the end, various portions of the body present a blackish or leaden-gray hue, and a horribly fetid odor is given off, which increases the loathsomeness of the disease. With all these frightful symptoms, strange to say, the intellect usually remains unimpaired until shortly before dissolution.

In very many instances the smallpox process is not so entirely cut short in the initial stage, but as the case advances the characteristic pustular eruption appears and partially develops. There often coexist in the same case the two forms of eruption,—the petechial and the pustular. In such cases, the pustules, however, instead of filling with pure pus, contain a mixture of pus and blood. Whether the disease assumes the purely petechial or the hemorrhagic pustular form, the final result is always the same: death invariably follows, though it may be a little longer delayed in the latter form.

* Chas. D. Meigs, M. D. Females and their Diseases, p. 529.

The disease may sometimes assume still another form. The true eruption may appear and proceed to maturation unassociated with petechiæ, but, in consequence of the profuse flow of blood from the womb, areolæ do not form at the base of the pustules, and the pustules present a shrunk or shrivelled appearance, and become of a milky-white color; a general adynamic condition ensues, and death follows as certainly as in the petechial or hemorrhagic form of the disease.

Not every case of smallpox in which abortion or premature birth occurs in the earlier stages of the disease takes on these terribly malignant forms. In the markedly modified form the smallpox process is, of course, not so seriously affected by the occurrence of this accident. Even in cases of true variola, when the loss of blood is not very great (which is very rare), the smallpox process may pursue its regular course, and progress to a favorable termination. I have met with two and only two recoveries out of twelve cases of variola vera in which the complication occurred in the earlier stages of the disease.

For facts in support of what has been said relative to smallpox exciting abortion when the pregnant woman is attacked, and to the increased mortality from the disease when this complication arises, the reader is referred to the table appended to this paper.

On examination of the table it may be seen that out of forty-six cases of smallpox (variola and varioloid) occurring in pregnant women, twenty-seven, or 58.69 per cent., suffered from abortion or premature birth. Of the remaining nineteen cases, eleven recovered without abortion occurring, and were delivered at full term, four died without suffering abortion, and four were not heard from after leaving the hospital. Of the twenty-seven cases (including both variola and varioloid) in which abortion or premature birth occurred, ten, or 37 per cent., died.

Abortion occurs in variola more frequently than in varioloid, though the difference is not so great as we would expect to find it. The table shows that out of twenty cases of variola, fourteen, or 70 per cent., miscarried; and out of twenty-six cases of varioloid, thirteen, or 50 per cent., miscarried, and four were not heard from after leaving the hospital. It is probable that abortion occurred in some of these latter cases also, for it was found that the accident not unfrequently happened long after patients had fully recovered, and returned to their homes.

When miscarriage occurs in variola it proves, of course, a much more serious complication than when it occurs in varioloid. By reference to the table we find that out of fourteen cases of variola thus complicated, ten, or 71.44 per cent., died; while among thirteen cases of varioloid in which the complication occurred there were no deaths. It may be proper to add, however, that I designate as varioloid only those cases in which there is no secondary fever, and in which the eruption reaches its height not later than the seventh day, counting from the day on which it first appears.

The period at which miscarriage most frequently takes place is during the second or eruptive stage of the disease. It not only occurs during the course of the disease, but frequently during convalescence, and, in many instances also, even several weeks after complete restoration of health. When it occurs at the latter time, the fœtus is usually found to be in a putrid state, indicating that its death took place a long time before, probably during the mother's illness, or, at the latest, during her convalescence.

Miscarriage proves a much more serious complication, as I have already indicated, when it occurs during the earlier stages of the disease; that is, during the first stage or the stage of initial fever, and the second or eruptive stage. Turning again to the table, we find that among the twenty-seven cases in which miscarriage or premature labor occurred, one miscarried during the first stage of the disease, and death ensued; eighteen miscarried during the second stage, of which number nine died; three miscarried during the third stage, of which there were no deaths; and five miscarried after perfect health had been restored, and they all recovered. The accident happens, doubtless, much more frequently during the first stage of the disease, particularly under epidemic influence, than the table would lead us to believe. In such cases death usually follows so speedily that the true nature of the disease is often overlooked, or, if recognized, the critical condition of the patient forbids removal to the hospital; hence the table shows a relatively small number of miscarriages occurring at this stage of the disease.

Smallpox in the fœtus.—The theory concerning the nature of smallpox is, briefly, that a specific poison is absorbed and infects the blood. Therefore, when a pregnant woman suffers from smallpox we would naturally expect the fœtus to be likewise attacked, and to pass through all the phases of the disease coincidently with the mother. Strange to say, however, this is but seldom the case. Yet it cannot be doubted that the fœtus is sometimes the subject of the disease, since a number of well-authenticated cases may be cited to prove the fact. In the majority of reported cases the attack of the fœtus does not begin simultaneously with that of the mother, but at a somewhat later period. This would seem to indicate one of two things,—either that the incubatory period is much longer in the fœtus, or that infection does not take place until the disease has fully developed in the mother. The latter is believed by some authors to be the case, and they therefore argue that infection takes place by simple contact rather than by the blood of the mother; for, it is said, if the blood of the mother were the infecting agent, the disease in the fœtus should be of constant occurrence. For the present I will say that, in my opinion, the mother's blood is the principal if not the only infecting agent, and hereafter will present some facts in support of this opinion.

In order to show the possibility of fœtal infection, and the circumstances under which it has taken place, I will briefly refer to a few well-authenticated cases.

Curschmann (*Cyclopædia of the Practice of Medicine*, by Ziemssen, vol. ii. p. 327) relates a case in which the mother in the fifth month of her pregnancy was sick in hospital with varioloid from November 28 to December 12, 1870. She had fully recovered on December 10. The fœtal movements remained strong up to the 28th, when they suddenly ceased. On the 31st she gave birth to a child, evidently dead for several days, which presented a well-formed smallpox eruption in the stage of suppuration.

The same author (loc. cit., p. 328), also, relates a case of infection of the fœtus which he thinks resulted from an attack of "variola sine exanthemate" in the mother. He says, "During a severe epidemic of smallpox, a midwife, aged 40, in the eighth month of pregnancy, fell sick with rigors, followed by violent fever, headache, pain in the back, etc.,—apparently the initial stage of smallpox. On the fourth day, however, she was free from fever, and, in spite of the most careful examination, exhibited no trace of the expected eruption. Ten days after the commencement of the disease, feeling at this time perfectly well, she gave birth to a child covered with a smallpox eruption, evidently just appearing, which developed still further, and in three days terminated in death during the stage of suppuration."

Dr. Lebert (*Bull. de Thérap.*, April 30, 1849, and Gregory on "Eruptive Fevers") exhibited to the Biological Society of Paris an aborted fœtus about four months old, whose body was covered with smallpox pustules, the mother having had a slight attack of varioloid and aborted during convalescence.

Dr. King (*N. Y. Jour. Med. and Surg.*, April, 1840) mentions a case of varioloid in a pregnant woman, and says that seventeen days after the first appearance of eruption, when desiccation was fully completed, she gave birth to a living child at seven months, covered with variola pustules.

Dr. William T. Taylor, of this city, reports an instance (*Amer. Jour. Med. Sci.*, New Series, vol. xxvi. p. 127) in which a pregnant woman underwent a very slight attack of varioloid, and twelve days after the appearance of eruption, which did not proceed beyond the papular form, expelled a five months' fœtus on whose body were smallpox pustules.

I have myself seen two cases of infection during intra-uterine life. One is recorded in the annexed table (Case 13), and the other occurred in an infant born at the eighth month, on whose body at birth the eruption was just beginning to appear. The child lived eight days, and died of fully-developed smallpox. The mother had smallpox, and died shortly after the birth of the child.

Dr. Luther V. Bell (*Amer. Jour. Med. Sci.*, May, 1836) gives an instance of a healthy child born at full term, exhibiting on its abdomen and thighs decided smallpox pitting, and who was insusceptible to vaccination. The mother had passed through an attack of confluent smallpox at the seventh month of her pregnancy.

Van Swieten (quoted by Dr. D. Hosack, "Medical Essays," and Gregory on "Eruptive Fevers") mentions a case similar to the one above.

We find from the reported cases, and from the annexed table, that infection of the fœtus does not depend upon the severity of the disease in the mother. Pregnant women suffering from the severest form of confluent variola do not communicate the disease to the fœtus more frequently than those who have the disease in the mildest possible form. Indeed, infection of the fœtus has even taken place through exposure of the mother, although she at the time was not personally susceptible to the contagion. Several curious cases of this description have been reported, and my paper would not be complete without referring to a few of them.

Jenner (*Medico-Chirurg. Trans.*, vol. i. p. 274) records two cases which came under his own observation, and also cites another reported by Mead. One of Jenner's cases is detailed by him as follows:

"A few days previous to her confinement (Mrs. W.) she met a very disgusting object, whose face was covered with smallpox. The smell and appearance of the poor creature affected her much at the time, and though she mentioned the circumstance on her return home, she had no idea that her infant could suffer from it, having had the smallpox herself when a child. During a few days after its birth the little one seemed quite well, but on the fifth day it became indisposed, and on the seventh the smallpox appeared. The pustules, which were few in number, matured completely. Dr. Croft, who attended her, being curious to know the effect of inoculation from one of the pustules, put some of the matter taken from one of them into the hands of a gentleman eminently versed in that practice, who produced the disease correctly. Mrs. W. was not sensible of any indisposition herself from this exposure, nor had she any appearance of the smallpox."

In the other case reported by Jenner, the mother, at the beginning of the last month of gestation, was exposed to variola contagion without being affected herself; but about one month after exposure she gave birth to a child whose body was covered with smallpox eruption in its early stage. But, to leave no doubt concerning the nature of the disease, smallpox was produced in another person by inoculation with some of the matter from the pustules. The child was seized with convulsions and died.

In the case observed by Mead, the mother, when "near her reckoning," attended upon her husband in an attack of smallpox. She had formerly had the disease, and was not now in the least affected by it. She went her full time, and was delivered of a dead child whose body was covered all over with variola pustules.

Dr. J. K. Mitchell (*Amer. Jour. Med. Sci.*, vol. viii. p. 555) reports a case in which the mother was exposed to the contagion three or four weeks before her confinement, without contracting the disease. The child was born healthy, but exhibited symptoms of smallpox on the third day after its birth, and nine days after birth the pustules were fully developed.

A case was communicated to the French Academy of Medicine in July, 1832, by M. Deneux (*ibid.*, vol. xi. p. 499). In this case the mother was not conscious of having been exposed to the contagion, and had had no symptoms of the disease. The child was born exhibiting confluent variola pustules in the eleventh or twelfth day of development.

Guoli reports a case (*ibid.*, vol. iv., New Series, October, 1842, p. 485) in which the mother was not conscious of any exposure, though about a week before delivery she was generally ill, but exhibited no decided symptoms of smallpox. The child was born at eight months, covered with variola pustules, which were at their height on the second day after birth.

Joslin reports a case (*ibid.*, vol. v., New Series, January, 1843, p. 249) in which the mother, just thirty days previous to her confinement, was exposed but once to a single case of smallpox at the very commencement of the eruption. She did not take the disease herself, but the child had on its body at birth a large number of variola pustules in the eighth or tenth day of development.

M. Gerardine reports a case (loc. cit., July, 1843) in which the mother was exposed to the contagion eight or ten days before her confinement, and remained entirely free from the disease. The child exhibited at birth a copious eruption of smallpox in the stage of suppuration.

The conclusions to be derived from the cases to which reference has been made are as follows. 1. That infection of the

fœtus may take place when the mother suffers from smallpox. 2. That the infection may be communicated to the fœtus through exposure of the mother, though she herself remains entirely free from the disease. 3. That the infection may be communicated at any time between the fourth month, perhaps earlier, of gestation and the full term. 4. That when infection takes place in the earlier stages of intra-uterine life the fœtus usually perishes, and is expelled in three or four days, or it may be retained for three or four weeks, perhaps longer, after life has become extinct. 5. That when infection takes place during the latter period of intra-uterine life, the child at birth may be covered with the eruption, which may be in different stages of development in different cases, or the eruption may not appear until a few days after birth. 6. That it is possible for a child in utero to undergo smallpox and recover, and to be born alive at full term exhibiting scars from the disease.

One other fact, already referred to, is exemplified in the reported cases, and that is, when a pregnant woman having smallpox communicates the disease to the child in utero, the latter, as a rule, is not attacked until the disease has made considerable progress in the mother. Can it be, as has been supposed, that infection takes place by simple contact, rather than by the blood of the mother? If so, I inquire, what is the source of infection in those cases in which the disease is communicated to the child through exposure of the mother, while she herself remains entirely free from it? Surely in such cases, and I believe in all cases, the blood of the mother is the only infecting medium: that is, the contagium is absorbed into the blood, and thereby conveyed to the fœtus.

A priori, we would suppose that in consequence of the close relationship between the blood of the mother and that of the fœtus, the disease in the fœtus would be of decidedly more frequent, if not of constant, occurrence; but why the fœtus in the great majority of instances escapes the disease, is a question which, I feel constrained to say, has as yet received no satisfactory answer.

It was, however, formerly believed by some that smallpox in the pregnant woman is invariably communicated to the fœtus, and that the fœtus generally perishes, and hence the frequency of abortion. Mead, doubtless, entertained this opinion, for he has said if a pregnant woman undergoes smallpox without aborting, the infant would remain through life insusceptible, having, in fact, passed through the disease in utero.

I have already endeavored to show that abortion generally occurs in consequence of some direct action of the variola process upon the womb, rather than from infection of the fœtus; and now I propose to offer some evidence to show that when a pregnant woman undergoes smallpox without miscarriage occurring, the susceptibility to the disease is not destroyed in the infant, except perhaps in some rare cases.

It will not be denied, I think, that susceptibility to the vaccine disease proves susceptibility to smallpox; and also that insusceptibility to one proves insusceptibility to the other. That there is now and then an infant born under the circumstances named above who will not respond to vaccina seems probable from a few reported instances. For example, Henry Robinson reports a case (*Brit. Med. Jour.*, February 10, 1877) of confluent smallpox at the seventh month of pregnancy in which abortion, although threatened, did not occur. The infant was born at full term, strong and healthy in every way, and quite free from any indication of the mother's illness. When two months old, the child was vaccinated, in the first place with points, without effect; then capillary tubes were tried, without result; and then arm-to-arm vaccination was done, and still there was no result. Robinson therefore concludes that the insusceptibility of this child to vaccination is owing to its having undergone smallpox in utero. While I do not deny that such may have been the case, yet I would call attention to the fact that the infant was only two months old when vaccination was attempted, and would say that it is sometimes very difficult, if not impossible, to successfully vaccinate very young infants. Perhaps if this child had been vaccinated when older, say at the age of four or five months, no difficulty would have been experienced in obtaining a successful result.

But in the vast majority of instances smallpox in the pregnant woman does not destroy the susceptibility to vaccina in the infant. In order to exemplify this statement, I shall briefly refer, first, to seven

cases reported by G. Rigden (*British Med. Jour.*, February 24, 1877), and then to six cases which have come under my own observation.

In the first case reported by Rigden, the mother had varioloid in the eighth month of her pregnancy. The infant was born at full term, presenting no evidence of the disease, but continued healthy, and was successfully vaccinated at the age of six months.

In the second case, the mother had varioloid in the seventh month of her pregnancy. The infant was born at full term, strong and healthy, and did not appear to have suffered from its mother's disease. Vaccination was successfully performed at the age of three months.

In the third case, the mother was attacked with varioloid within a week of her confinement at full term, and the disease was fully developed at the time of delivery. The infant when born was vigorous, and entirely free from any evidence of smallpox. It remained free from the disease, and was successfully vaccinated when between three and four months old.

In the fourth case, varioloid occurred when the mother was about seven months advanced in pregnancy, and delivery took place at the usual time. The child when born was vigorous, apparently unaffected, and was successfully vaccinated at the age of three months.

In the fifth case, the mother had varioloid when eight months advanced in pregnancy, and had fully recovered when delivery took place at full term. The child at birth was unaffected by the disease; it continued to thrive, and was successfully vaccinated before the fourth month.

In the sixth case, the mother was attacked with varioloid when daily expecting her confinement. Delivery took place while the eruption was at its height. She made a good recovery, and was able to nurse her child almost from the day of its birth. The infant was vaccinated the day following its birth, but without success; but, probably from neglect, became afflicted about a week after its birth with infantile erysipelas, and continued unhealthy for nearly three months; it fully recovered, and was successfully vaccinated when between four and five months old.

The child in the last case furnishes an example of what has already been said, namely, that very young infants are not always susceptible to vaccina. An additional fact is verified in this case, and also in the third case, which is, that new-born infants sometimes resist contagion to which they are readily susceptible when older.

In the seventh case, the mother contracted smallpox between the seventh and eighth month of her pregnancy. She recovered, and was delivered at full term of a healthy child, showing no evidence of having suffered from its mother's disease. Vaccination was successfully performed when three months old.

The six cases, similar to those above, in which I had the opportunity of testing the susceptibility of the infants to vaccina may be found recorded in the appended table: hence I shall refer to them here only very briefly.

Of the six cases, one had confluent variola, and five had varioloid. The earliest period of pregnancy at which the disease occurred in either of these cases was four months. Two of the number were delivered at or about full term, while suffering from smallpox, and their infants were at once successfully vaccinated, and wholly protected from the disease. The infants were all born healthy, and entirely free from any evidence of the disease; and they were *all* successfully vaccinated.

Besides these cases, seven similar ones are recorded in the table, but I regret to say that I did not have the opportunity of testing the susceptibility of these infants to vaccina. So far as I could learn, however, they showed no evidence whatever of having suffered from smallpox in utero.

The conclusions embodied in the foregoing observations may be summed up as follows:

First. Smallpox in the female disturbs with striking frequency the functions of the womb, giving rise in the non-pregnant woman to premature appearance of the menses, and, in the pregnant woman, frequently exciting abortion.

Second. Abortion is a very serious complication of smallpox. The earlier in the course of the disease it occurs, the more serious is the complication.

Third. The fœtus does not generally undergo smallpox in utero, although occasionally such may be the case.

Fourth. When a pregnant woman undergoes smallpox without miscarriage occurring, the susceptibility to the disease in the infant is not destroyed.

Table showing a record of forty-six cases of smallpox occurring in pregnant women.

Number of cases.	Color, White or Black.	Age.	Disease.	Whether vaccinated; and, if so, character of cicatrix.	Month of pregnancy when attacked.	Stage of the disease at which abortion occurred.	Result.	Number of days in hospital.	Remarks.
1	W.	23	Variola (confluent).	Poor cicatrix.	4	.....	Recovered	44	Delivered at term; child showed no evidence of having had smallpox, and was successfully vaccinated.
2	"	27	Variola.	Good cicatrix.	3	4th day of eruption.	Died, 5th day of eruption.	2	Fœtus showed no signs of smallpox.
3	"	35	Varioloid.	Fair cicatrix.	3	18th day of eruption.	Recovered	26	Fœtus showed no evidence of smallpox.
4	"	21	Variola.	Poor cicatrix.	2	3d week.	Recovered	18	Fœtus showed no evidence of smallpox.
5	"	32	Varioloid (mild).	10 poor cicatrices.	5	After leaving hospital.	Recovered	4	Eloped from hospital, and subsequently aborted. No history of fœtus.
6	"	24	Variola (confluent).	Fair cicatrix.	8	1st day of initial fever.	Died, 3d day of eruption.	2	Child lived for a short time, and died from debility; showed no signs of smallpox.
7	"	30	Variola.	Poor cicatrix.	5½	.....	Recovered	31	Delivered at term; child showed no evidence of smallpox.
8	"	26	Varioloid.	Fair cicatrix.	3	5 weeks after leaving hos.	Recovered	21	Aborted 5 weeks after leaving hospital; no history of fœtus.
9	"	22	Variola.	Not vaccinated.	7½	1st day of eruption.	Died, 6th day of eruption.	4	Prematurely delivered before admission into hospital. No history of child.
10	B.	35	Varioloid.	Poor cicatrix.	3	.....	Recovered	14	Delivered at term. No history of child.
11	W.	15	Variola.	Not vaccinated.	3	.....	Died, 9th day of eruption.	6	This patient was said to have been pregnant, but abortion did not take place.
12	"	23	Varioloid.	Good cicatrix.	2	10 days after leaving hos.	Recovered	14	No history of fœtus.
13	"	22	Varioloid.	Good cicatrix.	5½	26th day of eruption.	Recovered	41	The fœtus presented a few red spots, evidently the result (scars) of slight vesicular eruption.
14	"	18	Varioloid (mild).	2 good cicatrices.	8½	9th day of eruption.	Recovered	27	The child was vaccinated immediately after birth; a small vaccine vesicle developed; was an inmate of hospital for 3 weeks; did not contract smallpox.
15	B.	21	Varioloid.	Poor cicatrix.	3	.....	Recovered	27	Patient not heard from after leaving hospital.
16	W.	29	Varioloid.	Poor cicatrix.	5	.....	Died, 5th day of eruption.	3	Died without aborting. Post-mortem: Fœtus examined; no signs of smallpox.
17	"	30	Varioloid (mild).	Good cicatrix.	9	Delivered at early stage of eruption.	Recovered	26	Child vaccinated immediately after birth; 2 perfect vaccine vesicles developed; an inmate of hospital for 4 weeks; did not take smallpox.
18	"	30	Variola.	Poor cicatrix.	5½	2d day of eruption.	Died, 3d day of eruption.	1	Fœtus showed no evidence of smallpox.
19	"	27	Varioloid.	Fair cicatrix.	7	.....	Recovered	14	Delivered at term. No history of child.
20	B.	27	Variola.	Poor cicatrix.	3	1st day of eruption.	Died, 7th day of eruption.	5	Fœtus showed no evidence of smallpox.
21	"	26	Variola (confluent).	Not vaccinated.	7 or 8	3d day of eruption.	Died, 11th day of eruption.	3	Child lived one or two days, and died from debility. No evidence of smallpox.
22	W.	32	Varioloid.	4 good cicatrices.	8	.....	Recovered	15	Abortion threatened, but symptoms subdued by morph. sulph. Delivered at term. No history of child.
23	"	20	Variola.	Not vaccinated.	6	.....	Died, 7th day of eruption.	4	Died while in the act of abortion.
24	"	17	Variola (confluent).	Not vaccinated.	4	6 weeks after leaving hos.	Recovered	30	Aborted 6 weeks after leaving hospital; no history of fœtus.
25	B.	24	Variola.	Fair cicatrix.	3	.....	Died, 27th day of eruption.	22	Died of pleurisy, without aborting.
26	W.	19	Varioloid (mild).	5 good cicatrices.	6	One month after leaving hospital.	Recovered	7	Aborted one month after leaving hospital; no history of fœtus.
27	"	26	Variola.	Fair cicatrix.	5	3d day of eruption.	Died, 6th day of eruption.	3	Fœtus showed no evidence of smallpox.
28	"	22	Varioloid (mild).	Poor cicatrix.	3	2d day of eruption.	Recovered	7	Fœtus showed no signs of smallpox.
29	"	30	Variola.	3 poor cicatrices.	5½	4th day of eruption.	Recovered	29	Fœtus showed no evidence of smallpox.
30	"	20	Varioloid.	Fair cicatrix.	8	1st day of eruption.	Recovered	40	Infant died of debility. No evidence of smallpox.

Table (*continued*).

Number of cases.	Color, White or Black.	Age.	Disease.	Whether vaccinated; and, if so, character of cicatrix.	Month of pregnancy when attacked.	Stage of the disease at which abortion occurred.	Result.	Number of days in hospital.	Remarks.
31	W.	25	Variola.	Good cicatrix.	5½	.....	Recovered	29	Delivered at term No history of child.
32	"	25	Variola (confluent).	6 poor cicatrices.	4	5th day of eruption.	Recovered	32	Fœtus showed no signs of smallpox.
33	"	45	Varioloid (mild).	Fair cicatrix.	6	.....	Recovered	10	Eruption only papular. Not heard from after leaving hospital.
34	"	19	Varioloid.	Poor cicatrix.	6	.....	Recovered	23	Delivered at term. No history of child.
35	"	26	Variola.	Not vaccinated.	7½	1st day of eruption.	Died, 4th day of eruption.	2	Fœtus showed no signs of smallpox.
36	"	18	Varioloid.	3 fair cicatrices.	3½	.....	Recovered	15	Patient not heard from after leaving hospital.
37	B.	26	Variola.	Unknown.	8	Early stage of eruption.	Died.	.....	Died on way to hospital. Infant died from debility; showed no signs of smallpox.
38	W.	41	Varioloid.	2 good cicatrices.	8	3d day of eruption.	Recovered	23	Infant died from debility. No signs of smallpox.
39	"	28	Varioloid.	Fair cicatrix.	4½	.....	Recovered	*	Delivered at term; child successfully vaccinated.
40	"	30	Varioloid.	2 fair cicatrices.	6	.....	Recovered	*	Delivered at term; child successfully vaccinated.
41	"	25	Varioloid.	Good cicatrix.	3	1st day of eruption.	Recovered	14	Abortion occurred before admission to hospital; no history of fœtus.
42	B.	20	Variola.	Poor cicatrix.	6½	5th day of eruption.	Died, 8th day of eruption.	4	Infant lived about 24 hours. No signs of smallpox.
43	W.	22	Varioloid.	Good cicatrix.	5	.....	Recovered	16	Delivered at term. Infant showed no signs of having had smallpox: died when 2 months old, without being vaccinated.
44	"	28	Varioloid.	4 good cicatrices.	6	.....	Recovered	16	Delivered at term; child successfully vaccinated.
45	"	21	Varioloid.	8 good cicatrices.	5	During maturation.	Recovered	23	Fœtus showed no signs of smallpox.
46	"	25	Varioloid (mild).	3 fair cicatrices.	6	.....	Recovered	26	Was conscious of the motions of the child when discharged; not heard from since.

* Private patient.

TRANSLATIONS.

IODIDE OF POTASSIUM AND IODIDE OF ETHYL IN THE TREATMENT OF ASTHMA.—Prof. Germain Sée, in a communication to *La France Médicale*, February 2, 1878, states that he has made some researches into the application of iodide of potassium to the treatment of asthma, not only in the attacks, but with a view to curing the disease itself. He gives a brief statement of the number of cases observed, together with a complete analysis of the various points connected with the administration of the drug, its physiological effects, and its influence on the various forms of asthma. Dr. Sée begins with six grains of the iodide given thrice daily, and increases the dose to fifteen grains thrice daily. The length of treatment is, so to speak, indefinite; but ordinarily at the end of two or three weeks, when the attacks are diminished in severity, he reduces the dose of iodide to eight grains thrice daily. From time to time the treatment may be intermitted for a day; but a longer interval may be followed by return of the attacks. In order to prevent any disagreeable effects from the iodide Dr. Sée ordinarily adds a small amount of opium, which also serves to diminish the cough. When the cough is not particularly troublesome, but dyspnœa is a prominent symptom, he prescribes chloral to the amount of thirty to forty grains at night. The effect of the iodide upon the attacks of dyspnœa is quite striking. The respiration becomes free in a few hours, or, if the iodide has been administered shortly before an expected paroxysm, this does not occur. In cases of catarrhal asthma the latter disappears rapidly, but the former persists some time. In cardiac asthma the iodide is of little avail unless where hypertrophy or atrophy of the cardiac substance is present. Some inconvenience occasionally attends the too prolonged use of the iodide. Hæmoptysis occasionally occurs, so that this medicine

is not to be employed in tuberculous asthma. Loss of appetite, when this occurs, may be obviated by suspending the medicine for a few days or diminishing the dose. Emaciation to a slight degree may occur, but this is of no moment. Dr. Sée finally asserts that the iodide cures in almost every case. In the same communication he praises the iodide of ethyl inhaled to the amount of six to ten drops six or eight times a day. It produces no anæsthetic or soporific effect, but arrests the onset of an attack promptly. The iodide of ethyl has also been used successfully in cardiac and bronchitic dyspnœa, and in œdematous laryngitis. x.

Bromide of Potassium in Neuroses and other Affections of the Heart.—Angrisani (*Jour. des Sci. Méd.*, 1878, p. 108; from *Rivista Clin. di Bologna*) speaks as follows. 1. Bromide of potassium exercises a depressing effect on the vaso-motor centres and on the cardiac plexus. 2. It does this in a peculiar manner which is not known: it does not consist in the influence which the bromide has upon the smooth fibres of the capillary vessels. The narrowing of the calibre of capillaries probably depends upon extension of the influence of the bromide upon the vaso-motor nervous centres alone, in physiological experiments. 3. Bromide of potassium, unlike digitalis, has no influence upon the muscular fibres of the heart, nor has the latter any upon the arteries. 4. Whatever may be the state of the myocardia, bromide of potassium is the most powerful and most serviceable agent when functional anomalies of the heart, as frequent intermittence, arhythmia, etc., are to be corrected. 5. It cures surely and promptly angina pectoris and cardiac spasms when these are neuroses pure and simple. In cases dependent upon profound anatomico-pathological alterations of the heart or vessels, or compression of these organs, the bromide shows itself a powerful palliative for a greater or less period. 6. In those neuroses more conveniently treated by direct means the bromide succeeds in remedying radically the productive cause of those cases. x.

Extraction of a Foreign Body from the Knee-Joint through the Popliteal Space.—Champonnière (*Cbl. f. Chir.*, 1878, p. 248; from *Jour. de Méd. et Chir. Pratique*) treated a man 51 years of age, who suffered from chronic effusion into the left knee-joint. He frequently felt a "cracking" in this joint, and occasionally a sudden sharp pain would stop all movement. Above the patella a foreign body of considerable size could be felt, which could easily be moved from side to side. A few days later this had disappeared, and could be felt after some search on the outer side of the popliteal space. Champonnière made, with the careful use of the antiseptic method, an incision in the outer side of the popliteal region extending to the posterior capsule of the knee-joint, seized, by the aid of forceps thrust through the opening, the foreign body pinched up in the capsule, then opened the latter and extracted the body. A small quantity of synovial fluid escaped. The body was hard, of a knobby fibrous appearance, and about the size of a large bean. The wound was washed out with a 5 per cent. carbolic acid solution, a drainage-tube introduced, and the opening closed by means of sutures. At the end of sixteen days the scar had formed, and perfect freedom of movement was restored to the knee-joint. x.

Can Syphilis be Transmitted by Means of the Spermatic Fluid?—A contribution to this much debated topic is to be found in the *Annales de Dermatologie et de Syphiligraphie*, tome 8, No. 6. It is in the form of an original article by Dr. H. Mireur, known as the author of an admirable thesis entitled "*Essai sur l'Hérédité de la Syphilis.*" In this article Mireur, after showing the inadequacy of several observations which have been brought forward to prove the inoculability of the spermatic fluid of a syphilitic person, adduces several cases coming under his own notice, in which inoculation was attempted without success. A patient in full evolution of secondary syphilis, having roseola papulosa, mucous patches, etc., provided fresh spermatic fluid, which was immediately inoculated upon four persons absolutely free from syphilitic antecedents. Upon two the spermatic fluid was introduced into the arm by charged needles. Upon a third a blister was produced upon the leg the size of a ten-cent piece, and a bit of charpie soaked with the spermatic fluid was placed on the raw surface. On the arm of the fourth person an abrasion was made over the insertion of the deltoid, and several transverse incisions were made at this spot. The matter to be inoculated was placed upon this abraded surface as in the previous cases. With the exception

of a slight local inflammation, no result whatever ensued: no symptoms of syphilis, of any kind, were noticed. Mireur points out the frequency of contagion by the blood and the secretion of mucous patches, comparing the statistics of this variety of infection with those adduced in that under consideration, and analyzes the assertions of the writers who maintain the infectiousness of the spermatic fluid. These will not bear close examination at all, and we are inclined to think that Dr. Mireur has so far decidedly the advantage in the strength of the proofs he brings forward. x.

THERAPEUTIC VALUE OF FERROCYANIDE OF POTASSIUM.—Professor J. Regnauld and Dr. G. Hayem, thinking that the therapeutic action of ferrocyanide of potassium had never been thoroughly studied, undertook the investigation themselves. The account of their work is given in full in the *Bull. Gén. de Thérapeutique* for March 30. The conclusions at which they arrive are not favorable to the value of the drug as a ferruginous tonic. These conclusions are as follows. 1. Ferrocyanide of potassium is inactive as a ferruginous medicine, and it contributes nothing to the colored elements of the blood. 2. The organo-metallic radical is not modified in the organism: like the iron it remains inert; the cyanogen exercises no effect, since the ferrocyanide may be administered by the scruple daily for weeks together without affecting the health. 3. This salt exercises no appreciable effect either upon diuresis or on the production of urea.

SIX CASES OF EXTIRPATION OF RANULÆ, ACUTE AND CHRONIC.—Michel (*Cbl. f. Chir.*, 1878, No. 10; from *Gaz. Hebd.*) describes briefly six cases of cystic tumors under the tongue, with the view of showing the origin and treatment of these growths. The first of these cases was that of a girl of 18, who had a tumor the size of a goose-egg under the tongue. The ducts of Wharton and Rivinus were patent to the sound, and therefore the cyst did not have its seat in the salivary ducts. Extirpation was practised as follows. An incision of the mucous membrane was made, which showed the ducts of Wharton lying in front, the ranine vessels behind. The cyst was then carefully dissected out, in part with the point of the knife, in part with the handle, from the under surface of the tongue. With the exception of a conical process which reached down to the hyoid bone, the separation of the cyst gave but little trouble. The day after the operation, swallowing was performed with difficulty; but after this the patient made a speedy recovery.

In a second case, where the cyst-wall was very thin, Michel divided mucous membrane and cyst-wall together, and then, after emptying the contents, easily dissected out the sac. This patient left the hospital, entirely cured, on the tenth day. The other four cases were healed as rapidly as this. Michel adds an account of a case reported long ago, in which the ranula was so situated that the submaxillary gland was found in front, the tongue behind, and the genio-glossus inwards from the tumor. The canals of Wharton were unconnected with the cyst. The walls of the latter were thick and fibrous: the contents consisted of concretions, which showed under the microscope tesselated epithelial cells and crystals of cholesterine. In another case the ranula was a dermoid cyst.

Regarding the origin of these cysts, this, if we may judge from the contents, —now salivary, now mucous, again epithelial or cholestearic,—is various.

Therapeutically, M. Michel recommends extirpation, since none of the above-mentioned cases relapsed even after many years. This plan is preferable to iodine injections, etc., as more thorough. He supplements the histories of his own cases with still another, dating from 1766, where the cyst filled the patient's entire mouth, and projected out. The incisor, canine, and first bicuspids were pressed out of their sockets; the left upper canine had bored through the commissure of the lips, etc. The patient could only take fluids, and with difficulty these. The tumor was extirpated, and did not return. x.

PREPARATIONS OF VALERIANATE OF ZINC.

Pills.—℞ Zinci valerianat., gr. ix;
Tragacanth., gr. xxx.
M. Ft. in pil. no. xij.
Sig., one morning and evening.

Powders.—℞ Zinci valerianat., gr. ix;
Pulv. sacch. alb., ℈ij.
M. Div. in chart. no. xxiv.
Sig., one to four a day, according to the indications.

Potion.—℞ Zinci valerianat., gr. iss;
Aquæ destillat., f℥iiiss;
Syrupi simplicis ad f℥iv.
M. Sig., teaspoonful every half-hour.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MAY 25, 1878.

EDITORIAL.

HYPODERMIC MEDICATION.

SOME months since, we editorially called attention to the great abuse of the hypodermic method of medication by many of the profession, and expressed the opinion that it should never be employed except when urgently demanded for some specific purpose. It is, therefore, with some satisfaction that we see others waking to the dangers of the method.

In the May number of the *Chicago Medical Examiner* is a paper, by Dr. G. F. Ingalls, upon the employment of morphia in this way. His attention having been aroused by an unfortunate personal experience, he directed circulars of inquiry to eighty physicians of the Northwest, and thereby brought to light seven fatal cases not heretofore reported. In two of these the amount given was believed to be only that habitually used by the profession, but was not positively ascertained; in one case one-fifth of a grain with one-seventy-fifth of a grain of atropia, and in another one-fourth of a grain, given for sciatica, proved fatal. One death was from two doses of morphia of one-third of a grain each, with an interval of four hours between the first and second doses. In this instance the morphia was given to relieve the intense pain attending invagination of the intestines. Death from narcotism ensued six hours after the second dose.

Another death was caused by two doses of one-fourth of a grain each,—the first given internally.

The seventh case we give partially as reported:

"I was called to see Mr. B., who lived seven miles away, at eight o'clock P.M., and I found him suffering from myalgia of the muscles of the back. I at once administered one-sixtieth of a grain of sulphate of atropia hypodermically; after waiting till dryness of the throat and other constitutional symptoms showed themselves, and finding it gave him no relief from pain, I gave him one-fourth of a grain of morphia by the mouth. In three-quarters of an hour from the time I gave the morphia, the man was still groaning with pain, and then I gave one-fourth of a grain of morphia hypodermically, which soon quieted the patient." The doctor left, to be summoned two hours later to find the patient in a lethal stupor.

Besides these actually fatal cases, a much larger number were detailed in the replies to Dr. Ingalls's circular in which most serious and alarming symptoms were produced.

It will be seen that in several of these fatal cases the patient was suffering intense pain at the time of the injection: so that pain is not a surety against an overwhelming action.

IF boldness of proposal be followed by equal boldness of execution, the coming months of July and August will be memorable in the medical annals of New York city. The Committee on Abuses of Medical Charities offered to the New York County Medical Society a series of resolutions in regard to the abuse of medical charities, culminating in the assertion that the "practice of gratuitous professional service in charitable institutions leads to professional poverty, is counted unbusinesslike, and is held odious before the eyes of the fraternity; and that after the fourth day of July, 1878, it shall be considered a sufficient cause for disfellowship."

It is affirmed in the preamble to the resolutions offered that "there is now much actual suffering for the necessaries of life in the ranks of the medical profession." As hungry men are not much moved by diffi-

culties or remote consequences, it is possible that the resolution may pass and the attempt be made to enforce it.

Without a more intimate knowledge of medical politics in New York, we cannot say how far the County Society represents the New York profession.

If it do not do so to any extent, then the resolution is safe; but if the Society comprise within its ranks many hospital physicians, a disruption must ensue upon its adoption. The bull, when his meadow was invaded, may have had the right and the logic on his side, and may have even been a very powerful creature, but the locomotive was too much for him. Hospital managers will not, in these times of pinching, add to their embarrassments by salarying their medical staffs; and medical staffs cannot afford to resign, even at the command of a county medical society; if they do, their places will not long remain empty: between the humor of the hour of a county medical society and a permanent position in the hospital, the choice will usually be an easy one. If, however, the County Society be entering upon a course of action sufficiently consistent and persistent, it will at first drive out of its ranks most of the hospital class; but, possibly, in the end it may so affect public opinion as to lead to the payment of medical services by charitable institutions. Such change must be a very slow one, and the chances seem altogether against the Society.

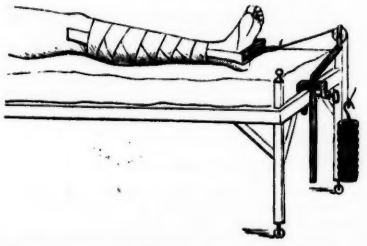
LEADING ARTICLES.

DR. LEVIS'S EXTENSION APPARATUS.

THE application of the principle of weight-extension to the treatment of fractures and in diseases and deformities of joints is of such importance as to require more effectual and convenient apparatus than is ordinarily used. It is desirable that the mechanical appliances for this object should be convenient and inexpensive, portable, not cumbersome, and readily and securely applicable to various forms of bedsteads or couches. It is also important that the amount of tension by weight can be estimated and varied to the requirements of the case.

All these requisites are secured in an accurate and mechanical manner by the apparatus devised by Dr. R. J. Levis, which has been used for a number of years in the Pennsylvania Hospital, and also to some extent in the hospitals of London.

The wood-cuts will render a full description of the apparatus unnecessary. An adjustable clamp holds in position the upright rod which supports the pulley. The rod and pulley can be adjusted at any required elevation. The clamp will grasp either a wide or narrow bar at the foot of the bedstead, or it can be attached to the back of a chair, to the end of a table, or to any object of sufficient security and steadiness.



The amount of weight-extension is simply effected by a series of one-pound weights, through the centre of each of which a hole is drilled, and the weights slide on a rod bent into the form of a hook at the top for catching in a loop in the extending cord.

The clamp can be reversed so as to grasp

an under edge when such hold is more convenient.

The apparatus is made by Gemrig, 109 South Eighth Street, and Kolbe, 15 South Ninth Street, Philadelphia, and by Reynders, 309 Fourth Avenue, New York.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 14, 1878.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

(Continued from page 379.)

Fibroid phthisis and bronchiectasis. Presented by Dr. JOHN GUITÉRAS.

FROM the notes of my resident physician, Dr. Musser, I extract the following history. Susan M., æt. 56, single, domestic. Admitted to the Philadelphia Hospital, November 17, 1877. Family history very favorable. With the exception of typhoid fever, she does not remember having any acute sickness. For the past twenty-two years she has had a cough, with abundant muco-purulent expectoration; but she has been able to do general house-work up to four days before admission, although she has been of late losing flesh and strength. She thinks the fever commenced a few days before admission. She never had syphilis.

On November 20, I found her very weak and emaciated. My notes of the physical signs were as follows. *Inspection.*—Marked depression of the infraclavicular regions, more so of the right. Right nipple higher than the left. There is no retraction of the sides. Posteriorly, there is no difference in the shape of the two sides. There is decided deviation of the trachea to the right side. *Palpation.*—The left apex expands more than the right. There is no difference at the bases. The vocal fremitus is increased throughout the right side. Mensuration shows the circumference of the right side to be half an inch less than the left.

The only pulsation visible about the chest is at the second interspace, one inch to the right of sternum. There is also some pulsation in the epigastrium. A distinct impulse is felt at the former place, and a very slight one behind the cartilages of the left false ribs.

Percussion.—There is resonance throughout the left chest, encroaching somewhat beyond the median line in front, and replacing the cardiac dulness. The hepatic dulness begins at the fifth rib, and just within the line of right nipple it becomes continuous with the cardiac dulness. The latter extends up to the third rib, where the tympanitic resonance of a cavity commences.

Auscultation.—The respiratory movements are irregular. There is harsh breathing over the left apex. At the right apex there is marked cavernous breathing, and amphoric whisper. The gurgles and the heart-sounds, which are loudest at the second right interspace, do not present any metallic echo. The heart-sounds are inaudible at the left axilla, and well marked in the right. At a previous examination I had found that the gurgles and cavernous puff were influenced by the cardiac rhythm during inspiration. Bronchial breathing is heard below the cavity, and the cavernous breathing is well marked behind.

Dyspeptic symptoms were well marked. No albuminuria. She had menstruated up to her forty-eighth year. The liver was slightly enlarged. The expectoration was muco-purulent, and of reddish-brown color. The breath extremely fetid. There had been no hæmoptysis. The temperature ran at first between 99° and 100°, during the last two weeks it frequently reached 101° in the evening, and she had night-sweats. The pulse and respirations averaged 100 and 28. During the last week they rose to 120 and 40.

She lay in a listless condition, without any pain or dyspnœa, and finally died on the 21st of December.

Post-mortem.—The right pleura is adherent throughout, the left only at the apex. Except over the cavity in the right apex it is not very thick. The cartilages of the bronchial tubes are softened in some places, and they are distinctly seen through the thin mucous membrane. At some places the lung-tissue may be seen through the membrane. The transverse muscular fibres are also very prominent and isolated, as well as the longitudinal fibrous bands. There is no ulceration, except where the cavities have formed. The inferior right bronchus is dilated. The superior one is thickened, and about an inch from its orifice it merges into an enormous cavity. This occupies the superior lobe and upper portion of the middle. The walls of the cavity present many anfractuosities and bands of fibrous tissue. Its upper wall is made up by the pleura. The pulmonary tissue below the cavity is much indurated, and of a slate color. The section is extremely granular, and at some spots marbled with a grayish color. The mouths of the blood-vessels and bronchioles appear open on the surface of section. The lower part of the lung is less affected, but the bronchial tubes are thinned out, and uniformly though slightly dilated. Caseous masses are quite rare; they present a grayish color, they are very granular on section, and are broken down with great difficulty. They are evidently developing in young formations of fibrous tissue. The left lung is not so much affected, but the upper lobe presents some

caseous masses of the more common appearance. The upper left bronchus presents a well-marked dilatation before it merges into a cavity much smaller than that upon the right side.

The right side of the heart was hypertrophied and dilated. The other organs were healthy. There was very slight lateral curvature of the spine.

Remarks.—It may be observed that though during life the position of the heart was so carefully determined, and found to be very unusual, yet very little mention of it is made in the post-mortem notes. The reason of this is that this autopsy was made in the usual manner, and was therefore worthless as far as studying the position of heart was concerned. I have more than once been surprised at finding a heart far nearer its normal position than the physical signs had led me to suppose. Even the auricles are not found in position to explain the pulsation detected perhaps at the second right interspace. The reason is obvious: on opening the thorax, the less affected and vicariously distended lung falls to near its usual place, and the heart, without support, also returns towards its normal position. I am sure that many autopsies are rendered worthless by our forgetting the differences that must exist between the distended lung, and the lung collapsed after opening the thorax. The relations are altered, and I feel certain that physical diagnosis loses in this manner much of what it might gain from the post-mortem table. All this can be avoided by ligating the trachea before opening the thorax. A great deal may also be learned by inflating the lung *in situ*.

In the present instance the bronchiectasis was primary. The patient had had chronic bronchitis for many years before any evidences of phthisis made their appearance. The same may be said of two other cases I have had lately under observation. In both of these the bronchiectasis was bilateral, as every pulmonary lesion should be that is consequent upon bronchitis. In one of them, a middle-aged colored woman, the signs and the post-mortem revealed coexistent fibroid change. In the other one, living yet, I do not feel sure of the existence of fibroid phthisis. In these three cases the dilatation was more marked in the upper lobe of the lung; at least the tendency to excavation of the dilated tubes has been greater at the upper lobes in the five cases of bronchiectasis with cirrhosis that I have noted. Of two of these I remember but little beyond the point just mentioned, and that the pulmonary symptoms developed in the course of Bright's disease (large fatty kidney). The renal symptoms became almost latent after the evidences of phthisis became well marked.

About the relations of cause and effect between cirrhosis of the lung and bronchiectasis, it may be said that they are mutual. Few cases of chronic bronchitis terminate in pronounced dilatations, and in these few cirrhosis is very apt to develop, as a direct consequence of the collapse of surrounding lung-tissue, and also of the inflammatory action going on in the walls of the tubes. It is well known that pulmonary caverns are generally surrounded by fibrous-tissue walls. It seems to me that the dilated bronchi act the parts of old cavities disseminated throughout the lung, thus giving rise to a diffuse and bilateral cirrhosis. So in the present case this is not rarely accompanied with epithelial accumulations in the air-vesicles. On the other hand, cirrhosis as a primary disease is rare, whether due to pneumonia, pleurisy, old age, syphilis, heart-disease, or the inhalation of certain irritants. Whatever its cause, it frequently terminates in bronchial dilatation. In this manner one condition is as frequently primary as the other. It is in the latter class of cases, especially when due to chronic pleurisy, that cirrhosis and bronchiectasis are more apt to be unilateral. It is of interest to note in this case the probable connection of the bronchitis with typhoid fever. I also wish to state that we can exclude syphilis, heart-disease, anthracosis, and siderosis, from consideration in the present case.

Gangrene of the lung following senile pneumonia. Presented by Dr. R. G. CURTIN.

Mrs. W., aged 77, had a cough for four months, which was rather worse at night. The expectoration at first was scanty, but the second month she commenced to expectorate a tough, gelatinous mucus. About four weeks before her death her respiration became embarrassed, and the cough grew worse, accompanied by considerable fever; her pulse ran as high as 120 at times; some dulness posteriorly on the right side; coarse crepitant râles over the same region. Four days before death she began to expectorate a dark-colored and very offensive material. The cough was very harassing. She died slowly and quietly. This case was under the care of Dr. De F. Willard.

Post-mortem.—All the superficial arteries were very much degenerated. The radial arteries were like a string of beads. The aorta on the inner surface was almost brittle.

Lungs.—Around the root of the right lung were found several pulpified spots, oval in shape, the largest being about two inches by one and a quarter inches. The lung-tissue in these places was simply melted down, being almost natural in color. The softened place was not surrounded by indurations, nor was there any evidence of congestive pneumonia, consolidation, or infarction. The odor, at the examination, was characteristic of gangrene of the lung. The bronchial glands were not enlarged, nor was there any evidence of cancer.

Gangrene of the lung following latent pneumonia. Presented by Dr. R. G. CURTIN.

A. B., aged 34, single. Previous to her last illness her health had been quite good. There was no hereditary tendency to tuberculosis. She had been sick with latent pneumonia about four or five weeks when she began to expectorate material characteristic of gangrene of the lung. About three weeks after the advent of the gangrene she died of exhaustion.

Post-mortem.—The right lung was found to be diseased throughout. The middle and lower lobes were in a state of gray hepatization. The upper lobe was entirely destroyed by the gangrenous process, the cavity being traversed by the larger blood-vessels and bronchi, which had resisted the action of the disease. The other organs were healthy.

Metastatic abscess of lungs following severe wounds of scalp, cranium, and buttocks. Presented by Dr. E. O. SHAKESPEARE.

The specimen was obtained by a post-mortem examination made for the coroner on the body of Patrick Murray, at the Presbyterian Hospital. I know nothing of the history of the case, except from inquiries of the resident physicians of the hospital, who were present at the autopsy, one of whom has kindly furnished me with the date of the subject's admission, and a temperature-sheet, which presents some peculiar curves:

"PRESBYTERIAN HOSPITAL, February 12, 1878.

"DEAR DOCTOR,—The following is a concise history of the case we posted some time ago. P. M., aged 20, white, laborer, single; personal habits good; was admitted on the evening of December 20, 1877. He fell forty-five feet, striking his buttock against a bucket, which was coming up. The bucket turned him, and he fell ten or fifteen feet farther, striking upon his head. Examination revealed a lacerated wound of the scalp about one inch in length over the occipital region, extending down to the bone. The periosteum was torn off for a space of a half-inch. Found no other lesions of the head. The buttocks were contused. The left had a deep wound extending into the muscular tissue. The right buttock was greatly ecchymosed. The temperature-sheet which I enclose is very remarkable, even for a pyæmic case, and will be of more interest to you than anything else I could send:

"Dec. 29. M. 102½°; E. 103½°.—Dec. 30. M. 102°; E. 104½°.—Dec. 31. M. 104½°; E. 106½°.—Jan. 1. M. 105½°; E. 104°.—Jan. 2. M. 104½°; E. 105½°.—Jan. 3. M. 104°; E. 106½°.—Jan. 4. M. 103°; E. 104½°.—Jan. 5. M. 105°; E. 106°.—Jan. 6. M. 105°; E. 107½°.—Jan. 7. M. 104°; E. 103½°.—Jan. 8. M. 103°; E. 105°.

"Very respectfully,

"W. C. HOLLPETER, *Res. Surg.*"

It may be stated, in addition to the above, that, notwithstanding the distance fallen, and the injuries to the head, there were no marked head-symptoms; that nearly ten days after injury the patient began to exhibit symptoms which soon developed into those of a marked pyæmia, from which he succumbed nineteen days after injury. The following is a brief abstract of the notes of the autopsy, made January 9, 1878:

External examination.—A purplish line under each eye; slight ecchymosis of bulbar conjunctiva; pupils slightly and equally dilated; healing lacerated wound of left buttock, about an inch deep; cannot run probe below its bottom. On back of head, little to right of median line, an incised wound of scalp, partly healed, one inch and three-quarters long, edges slightly swollen; at bottom, bone denuded of pericranium; could not feel fracture or depression by using end of finger.

Internal examination—Head.—Numerous extravasations of blood into deep layers of scalp, and between latter and skull, extending almost over whole cranial vault; this more marked around seat of external wound. Upon first glance, seemed to be no break in surface of bone at seat of wound, but close inspection showed two faint, narrow, short cracks, and a scarcely perceptible depression. Opposite this, inner table showed stellate fracture with some depression of inner plate of right parietal bone. In outer plate of left parietal, a small, fine linear fracture; opposite, in inner plate, a stellate crack. In the frontal bone, commencing at coronal suture, one inch to right of median line, and extending to right superciliary ridge, a sharp, gaping linear fracture through the whole thickness of skull; gaping line of latter fracture filled with blood and lymph. This material was found in very thin layers on inner surface of calvarium, around the region of the fracture. Dura mater, everywhere readily separable from calvarium, was covered along median line by thin layer of blood and lymph; membrane not adherent to pia mater, nor was it inflamed; inner surface apparently normal. No marked changes in other membranes, nor in cerebrum or cerebellum.

Thorax.—Some inflammation of anterior mediastinum.

Right Lung.—Tolerably recent adhesions to wall of chest, particularly near apex, and posteriorly. No effusion into pleural sac.

Left Lung.—Bands of adhesion more numerous, were mainly lateral and posterior, binding lung firmly to thoracic wall. Some straw-colored effusion in left pleural cavity, in it flakes of lymph and pus; surface and substance of each lobe of both lungs studded with numerous circumscribed abscesses, varying in size from that of a pea to that of a walnut, some round, others wedge-shaped, others between these two forms; when at surface, latter raised; pleural covering here

thickened; section through abscesses showed them to be surrounded by an area of granular hepatization, beyond which was another zone of intense congestion; lung-tissue between these abscesses crepitant, but much congested, particularly posterior portions; abscesses rather more numerous in left than in right lung.

Heart.—Chicken-fat clot in right ventricle, sending prolongation beyond branches of pulmonary artery; organ otherwise normal, as were also large vessels; liver normal; spleen showed a subcapsular rupture of pulp in a line extending one inch with surface; right kidney slightly congested, otherwise normal; ureter and bladder normal. Around left kidney, which itself was not unhealthy, a large perinephritic collection of pus; infiltration of subperitoneal connective tissue extending from spleen to left groin; left psoas muscles softened and infiltrated with pus; probe could not demonstrate any connection between this collection of pus and the wound of buttock, although lymph glands opposite its location were enlarged and purulent; no involvement of joints could be determined.

(To be continued.)

REVIEWS AND BOOK NOTICES.

ATLAS OF SKIN DISEASES. By LOUIS A. DUHRING, M.D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc. Part III. ECZEMA (SQUAMOSUM), SYPHILODFRMA (ERYTHEMATOSUM), PURPURA (SIMPLEX), SYPHILODERMA (PAPULOSUM ET PUSTULOSUM).

The present fasciculus of Dr. Duhring's work fully upholds the reputation gained by the first two parts. Well-chosen instances showing the every-day features of the diseases portrayed are accompanied by lucid and concise descriptions of the cases themselves, the word-pictures supplementing the portraits and the portraits illustrating the text in such a fashion as to form a trustworthy guide to the student and a satisfactory resort to the puzzled practitioner. Want of space prevents a detailed and critical examination into the merits of the pictures, but especial attention may be called to the plate representing eczema squamosum, where the tone of color belonging to this affection and the powdery lightness of the desquamating epithelium around the diseased patches are well brought out under conditions of unusual difficulty. The picture of syphiloderma papulosum et pustulosum is, to our mind, one of the best chromo-lithographic representations of skin disease we have ever seen: the elevation of the papules and pustules is well expressed, and the little crater-like ulcers scattered here and there where the pustules have broken down are shaded with such art as to give an almost stereoscopic effect. X.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, WITH THE PRESIDENT'S ADDRESS, AT THE FIRST MEETING, held at Niagara, September 4, 5, and 6, 1877. New York: G. P. Putnam's Sons, 1878. Pamphlet, 42 pp.

An abstract of the proceedings of this the youngest of our American special medical associations was given in the *Medical Times* for September 29, 1877. The various papers read at that time have for the most part now been published in the different journals of the country, so that the profession at large can gain some idea of the work done at the Niagara meeting. The pamphlet before us contains the address of the president, Prof. Jas. C. White, of Boston, on "Dermatology in America;" an address full of interest in its relation to the history of medicine in this country, cheering in its evidence of scientific progress, and written in so agreeable a style as to be most pleasant reading. Appended to the address is a list of "contributions to dermatology" made by American physicians, a list comprising above three hundred titles, among which are atlases, treatises, and text-books, numerous papers containing the results of original clinical and pathological investigations, translations, reviews, and abstracts,—a noble array of work, much of it well done, some of permanent value, and well supporting the reputation of the dermatologists as the most active specialists in the medical profession. X.

GLEANINGS FROM EXCHANGES.

MALIGNANT SCARLATINA TREATED BY SALICYLIC ACID (*The Medical Examiner*, February 21, 1878).—A recent number of the *Berliner Klinische Wochenschrift* contains an account of a severe case of malignant scarlatina in the treatment of which salicylic acid, given internally and injected into the nose, produced the happiest results. The patient was a boy, thirteen years of age, who had been suffering for some weeks from gastro-enteritis. On the second day of the scarlatinal eruption, diphtheritic patches appeared in the pharynx and nasal passages and on the integument of the nose and lips. These were accompanied by ulceration, and a copious discharge from the nose with a peculiar fetid odor. The pulse was 150; the temperature 105.8°. A grain of salicylic acid was administered every hour, and a solution, containing one grain to the ounce, was injected into the nasal cavities every two hours. Soup, wine, and eggs were freely given, and the patient's body was frequently sponged with cold water. Under this treatment the symptoms began to subside. After the first injection the fetid odor commenced to disappear. Altogether the boy took ninety grains

of the acid. He was convalescent in three weeks. Symptoms of intestinal catarrh apparently caused by the acid yielded readily to treatment.

SUBCUTANEOUS INJECTION OF CHLOROFORM AND ETHER (*The Clinic*, February 16, 1878).—M. Presmer has tried the deep injections of chloroform in cases of neuralgia, and has met with the marked success which followed their use in England and America. Chloroform is preferable to morphia, because its prolonged administration does not engender an analogue of morphinism. M. Gelle has successfully employed the hypodermic injection of ether in the treatment of convulsions, and he has succeeded with two injections in interrupting convulsions produced in a child of seven months by an incipient pneumonia. Both authors warn against the danger of embolism which would be incurred by an injection into a vein.

OZÆNA AND ITS TREATMENT (*The Practitioner*, February, 1878).—Dr. Rouge read to the Congrès International des Sciences Médicales, held at Geneva, a paper on ozæna, in which he stated that, as a rule, the disease originates in suppuration of the nasal fossæ, or the sinuses connected with them, as the frontal, ethmoidal, sphenoidal, and the antrum. The suppuration appears to be always due to some alteration of the bones. The larger the extent of bone affected, the greater the degree of ozæna, the fetidity of the breath being increased by the putrefaction of the gums. The treatment should consist in frequent washing out with injections of the nasal fossæ, insufflation of astringent, caustic, and disinfectant powders, cauterization with solid chemical caustics, the employment of the galvano-cautery, extraction of sequestra, drainage of the sinuses. To effect these proceedings the nose should be detached by the sublabial operation, which permits all the parts to be examined, and also allows the extirpation of the necrosed parts. No cicatrix is perceptible after the operation. In addition, general treatment should be attended to.

MISCELLANY.

ONE of the recent Paris Societies is the Société d'Autopsie Mutuelle. Its adherents are required to leave, by a will made out in due form, their bodies at the disposal of the Society for post-mortem study. M. Louis Asseline, editor of the *Rappel*, an extremely radical paper, the first member who has been brought under the operation of the new Society, was recently dissected by Professor Paul Broca.

TREATMENT OF FURUNCLES—NOTE ON A NEW PROPERTY OF ARNICA.—As the result of physiological experiments, Dr. Planat (*Lyon Médical*) has been led to the use of arnica in all cases of superficial acute inflammation, as furuncles, anginas, erysipelas, etc. He states that arnica aborts all furuncular eruptions, except those accompanied by diabetes, with remarkable promptness.

TRANSFUSION IN UTERINE HEMORRHAGE.—In the *Archives de Tocologies* for December, 1877, there is a remarkably successful case, in which transfusion was performed for severe menorrhagia in a girl thirteen years of age. The apparatus of M. Marthien was used, the blood not being defibrinated. The quantity employed was 170 grammes. The patient rapidly revived during the operation. Afterwards the feeling of warmth at first felt gave way to shivering and extreme thirst. The pupils, which had been widely dilated, became closely contracted, and this condition continued for four or five hours. The following morning the pulse was 145, the hemorrhage insignificant, and the sickness less frequent. Some febrile disturbance followed, but the girl gradually became convalescent, and she left the hospital, about two months from her admission, in fair condition, but still very pale.

NOTES AND QUERIES.

CAMP STAMBAUGH, WYOMING, April 28, 1878.

EDITOR PHILADELPHIA MEDICAL TIMES:

SIR,—In connection with the case of strangulated hernia reported in the *Times* of March 30, 1878, the following extract from Dr. Louthan's letter, just received, is of interest:

. . . "J. S., the man we operated on, is entirely cured. . . . The tenth day after your departure I turned him over to the mercies of nurse and cook. I continued the quinine and brandy up to that time. Bowels regular, with one exception; on fifth day bowels relaxed, stools discolored with blood. Gave acetate of lead gr. vi, opium gr. ij. No trouble afterwards. (Signed) J. M. LOUTHAN."

Yours truly, A. P. FRICK, A. A. Surgeon U.S.A.

EDITOR PHILADELPHIA MEDICAL TIMES:

THERE is a patent affair, known as the Holman Liver Pad, that has gained a great reputation in this vicinity for its wonderful cures of dyspepsia and liver trouble. Can any of the readers of the *Times* give the medicinal ingredients, if any, of the pad, and why benefit is derived from wearing it?

A SUBSCRIBER.

A SPECIFIC FOR WHOOPING-COUGH.

PHILADELPHIA, May 10, 1878.

DR. H. C. WOOD:

DEAR SIR,—I write you to say that I believe I have succeeded in using a specific for whooping-cough.

Believing that whooping-cough is the result of the location of a specific contagium on or in the mucous membrane of the respiratory apparatus, from my experience with the muriate and carbonate of ammonia I was of the opinion that the beneficial results obtained by their use in the treatment of bronchitis could be ascribed to a stimulant effect on the respiratory mucous membrane; as the ammonia is eliminated from the system through this membrane. In looking over the list of antizymotics I rejected all the familiar preparations as most likely useless, or they would have been found useful long since. I concluded that to subserve the purpose indicated I must have an antizymotic that will be eliminated by the respiratory mucous membrane, and the only thing likely to answer the purpose would be the picrate or carbazotate of *ammonia*.

I have treated six children suffering with whooping-cough (at the Howard Dispensary) in accordance with the above-related conclusions, and, I am very happy to state, with the most gratifying results. The mothers assured me that after their children would take two or three doses of the medicine the paroxysm would relax in severity, and in a couple of days would entirely subside as a paroxysmal cough with the well-

known whoop, and a simple cough of ordinary laryngo-bronchitis remain. I gave the remedy in this way:

℞ Picrate of ammonia, gr. i;
Muriate of ammonia, gr. xxiv;
Powdered extract of liquorice, ʒi;
Water, fʒiii.

M.—S. Teaspoonful every 3 hours to a child 6 months and under, doubling the quantity for a child of about one year to two years of age, and giving as much as ⅛ gr. to a child 3 to 5 years of age.

It might be a coincidence that these six children (belonging to three different families) recovered under the use of the medicine; but I, of course, believe it to be solely the result of the picrate of ammonia. My opportunity for observing whooping-cough in private practice is very limited. Knowing that you are specially interested in therapeutics, I would like you to submit the treatment I have suggested to a test, provided it impresses you favorably.

I have requested several of my friends in the profession to give it a trial. So far as I know, the treatment of whooping-cough heretofore has been quite discouraging, especially to parents, and I am *very* sure there would be no harm done or time lost by the treatment with picrate of ammonia.

With very much respect, I remain truly yours,
Z. T. DELLENBAUGH.

CAMDEN, N.J., May 9, 1878.

ED. PHILADELPHIA MEDICAL TIMES:

Please notice in your journal that any of the medical profession wishing to attend the New Jersey Medical Society's annual meeting, May 28, at Spring Lake, Monmouth county, can obtain orders for excursion tickets from Camden and return, $3.36, good for five days (May 28 to June 1). I have a number of the orders, and will send them to any of the medical fraternity. We desire to have as many from Philadelphia as can attend, and feel assured it will repay them.

Very truly yours,
H. GENET TAYLOR, M.D.

AMERICAN MEDICAL ASSOCIATION.

PHILADELPHIA, 1400 PINE STREET.

The twenty-ninth annual session will be held in the city of Buffalo, N.Y., on Tuesday, Wednesday, Thursday, and Friday, June 4, 5, 6, and 7, 1878, commencing on Tuesday at 11 A.M. The chairmen and secretaries of the several sections of the American Medical Association are requested to send in (by title) the papers to come before them, with the time for reading. Also all gentlemen having papers to present, not referable to the sections, will send as above, without delay, to

THOS. F. ROCHESTER,
Chairman of Committee of Arrangements, Buffalo, N.Y.

Orders for excursion tickets from Philadelphia to Baltimore and return, sent on application to permanent secretary, one fare and a half; Baltimore to Philadelphia and return, $4; Canada Southern & Wabash R.R. will issue to delegates and families at rate of one-half fare. Present certificate of appointment. This reduces fare one-half from St. Louis, Toledo, Deposit and through lines to Buffalo, thus reaching the whole Southwest.

W. B. ATKINSON, M.D.,
Permanent Secretary, 1400 Pine Street, Philadelphia.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM MAY 5 TO MAY 18, 1878.

CAMPBELL, JNO., LIEUTENANT-COLONEL AND SURGEON.—Announced as Medical Director of this Department. G. O. 4, Department of the South, May 15, 1878.

CLEMENTS, B. A., MAJOR AND SURGEON.—Granted leave of absence for one month on surgeon's certificate of disability. S. O. 37, Department of the Platte, May 1, 1878.

TOWN, F. L., MAJOR AND SURGEON.—Relieved from duty in Department of the Missouri, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 101, A. G. O., May 10, 1878.

FRANTZ, J. H., MAJOR AND SURGEON.—Relieved from duty in the Department of the East, and authorized to remain at his home on usual monthly certificate of disability until his health is sufficiently restored to resume duty. S. O. 101, c. s., A. G. O.

STORROW, S. A., MAJOR AND SURGEON.—Assigned to duty as Chief Medical Officer of the command of Lieutenant-Colonel L. P. Bradley, Ninth Infantry. S. O. 41, Department of the Platte, May 10, 1878.

TILTON, H. R., MAJOR AND SURGEON.—Relieved from duty in Department of Dakota, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 101, c. s., A. G. O.

WOODHULL, A. A., MAJOR AND SURGEON.—Relieved from duty at Angel Island, and assigned to duty as Post-Surgeon at Point San José, California. S. O. 69, Division of the Pacific and Department of California, May 2, 1878.

WILLIAMS, J. W., MAJOR AND SURGEON.—Relieved from temporary duty with troops at Washington Arsenal, D. C., and ordered to Department of the Missouri. S. O. 101, c. s., A. G. O.

BROWN, H. E., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and ordered to Department of Texas. S. O. 101, c. s., A. G. O.

MIDDLETON, P., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 104, A. G. O., May 14, 1878.

CALDWELL, D. G., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, and to comply with S. O. 9, c. s., A. G. O. S. O. 92, Department of Texas, April 30, 1878.

O'REILLY, R. M., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and ordered to Department of the South. S. O. 101, c. s., A. G. O.

HEIZMANN, C. L., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and ordered to Department of the Columbia. S. O. 101, c. s., A. G. O.

CAMPBELL, A. B., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 101, c. s., A. G. O.

WILSON, W. J., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Missouri, ordered before the Medical Examining Board, New York City, for examination for promotion, and after examination report by letter to the Surgeon-General. S. O. 101, c. s., A. G. O.

STYER, CHAS., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence to June 30, 1878, and his resignation accepted by the President, to take effect June 30, 1878. S. O. 95, A. G. O., May 3, 1878.

CORSON, J. K., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and ordered to Department of Arizona. S. O. 101, c. s., A. G. O.

HALL, J. D., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and ordered to Department of Texas. S. O. 101, c. s., A. G. O.

SKINNER, J. O., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the South, and ordered to Department of Arizona. S. O. 101, c. s., A. G. O.

MOSELEY, E. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report in person to Lieutenant-Colonel L. P. Bradley, Ninth Infantry. S. O. 41, c. s., Department of the Platte.

BARNETT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Gulf, and ordered to Department of the Platte. S. O. 101, c. s., A. G. O.

CRAMPTON, L. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Gulf, and ordered to Department of Dakota. S. O. 101, c. s., A. G. O.

TAYLOR, M. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Gulf, and ordered to Department of the Missouri. S. O. 101, c. s., A. G. O.

NEWLANDS, WM. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Angel Island, California. S. O. 69, c. s., Division of the Pacific and Department of California.

SHUFELDT, R. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To accompany Company D, 4th Infantry, from Omaha Barracks to Fort Laramie, Wyoming, and on arrival report to the Post-Commander for duty at that post. S. O. 41, c. s., Department of the Platte.

WRIGHT, J. J. B., COLONEL (retired).—Died at Carlisle, Pennsylvania, on May 14, 1878.